

ITEMS OF INTEREST.

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Notes from the Profession.

REPORT OF THE MEETING OF THE PENNA. STATE DENTAL SOCIETY.

[Held at Cresson, Pa., July 31 and August 1 and 2, 1883.]

BY DR. W. H. TRUEMAN, PHILA.—FOR THE “ITEMS OF INTEREST.”

(CONTINUED FROM PAGE 443.)

Dr. Guilford read a paper upon “Properties of Gold Foil.” He treated at some length the properties of gold—dwelling especially upon cohesion—and the difference between cohesive and plain gold. He took the ground that, naturally, gold foil was cohesive, and supposed that it was passed through some process to destroy this property when plain or non-cohesive gold was desired. Assisted by a chemical expert, he had spent some time endeavoring to discover what the physical difference between the two forms of gold was, but without any satisfactory result. With the most delicate chemical tests he was not able to find even a trace of any of the various agents said to be used in preparing non-cohesive gold. He suggested that the cohesion of gold might be caused by the interlocking of the crystals on its surface, and that, the increased cohesion caused by annealing, might be due to the heat, lifting up and rendering these crystals more prominent. While gold could be crystallized, he had never seen any sign of crystallization on the foil, and had never heard of anyone who had, yet he could conceive of their being so minute, or so situated, that the best microscope would not define them. He referred to a paper published by Dr. Black a few years ago, in which were detailed a series of experiments that seemed to show that gold foil was liable to have a thin film of various gases form on the surface, which destroyed, to a greater or less extent, its cohesion. Dr. Black has found that, except sulphur and phosphorus, those most commonly met with could be driven off by heat. He also found that hydrogen gas had a strong affinity for gold, and that gold coated with it was protected from other and more inju-

rious gases. He therefore suggested keeping a little ammonia in the gold drawer. Then the gold would be covered with a film of hydrogen that would protect it from contact of other gases; and when annealed, the hydrogen being readily expelled by heat, left the gold in good working condition. Dr. Guilford thought the experiments of Dr. Black offered the best explanation of the difference noticed in the working properties of gold foil. He briefly noticed the peculiarities of full, semi, and non-cohesive gold foil, and hoped that future investigations might enable us to find on what the cohesiveness of gold really depends.

SECOND DAY, AUG. 1—AFTERNOON SESSION.

After receiving the report of the State Examining Board, and of several committees, the society adjourned to attend the clinics.

CLINICS.

Dr. W. Storer How illustrated his method of attaching artificial crowns.

Dr. W. G. A. Bonwill exhibited his dental engine and mechanical mallet.

Dr. C. H. Land, of Detroit, Mich., exhibited a new form of air chamber. He contends that the air chamber should cover at least four-fifths of the entire lingual surface of the palatine arch, and certain portions of the alveolar. He recommends trimming the plaster cast on the outer portion of the alveolar ridge, especially any projecting points, so as to make it a comparatively level surface; his idea and design being to let the pressure of the plate bear directly on the outer portion of the alveolar ridge. His air chamber is of the usual shape, but larger, and made much thinner where it bears upon the center of the palate. When the plate is placed in the mouth, it rests entirely on those portions of the ridge cut from the cast. This undue pressure is expected to cause absorption, so that in a short time a perfect fit is obtained. In the meantime, until the plate touches the roof of the mouth, he recommends wearing a moist piece of cotton batting, to fill up the space.

EVENING SESSION.

The first business was the election of officers, which resulted as follows:

President—S. H. Guilford, Philadelphia.

First Vice President—George Elliott, Meadville.

Second Vice President—James Truman, Philadelphia.

Recording Secretary—E. P. Kremer, Lebanon.

Assistant Secretary—Wm. B. Miller, Altoona.

Corresponding Secretary—W. H. Fundenberg, Pittsburg.

Treasurer—G. W. Klump, Williamsport.

Board of Censors—Louis Jack, Wm. H. Trueman, W. E. Magill, C. S. Beck, J. Martin.

Drs. Magill and Gerhart were re-elected members of the State Examining Board.

Wilkesbarre was selected for the next meeting, commencing the last Tuesday in July, 1884.

The committee appointed to confer with the Examining Board presented, through their chairman, Dr. Jack, a report, giving a brief history of the work of the Examining Board. Since it was established in 1876, two hundred and seventeen applicants for a certificate of qualification have appeared before them; of this number twelve have been rejected. Some of these have afterwards attended a dental college and have graduated, and several have passed an examination the following year. The committee find that the examinations have been as rigid as those usually held at the colleges, and have no reason to think that any have received certificates that were not properly qualified. They desired at the same time to say, most emphatically, that they do not consider the instruction of a preceptor equal to the systematic teaching of a college course in preparing a student for practice, and hope the time will soon come when all who desire to enter the profession will avail themselves of its advantages.

THIRD DAY—MORNING SESSION.

A discussion on Dr. Guilford's paper occupied some time, but nothing of special interest was brought out.

Dr. C. S. Beck moved that nothing in the shape of a clinic be brought before the society next year unless it is entirely new; adopted.

Dr. John A. Klump, of Delaware, read a paper on "The Effect of Malarial Poisoning on the Dental Pulp." Practicing in a malarial district, he had frequent opportunity of observing the effect of malarial poisoning upon the dental pulp. At first he was annoyed by patients coming to him suffering with severe toothache, for which he could find no cause, and often met with cases where a number of sound teeth had been extracted in the hope of obtaining relief. This led him to closely study the matter, and by degrees he came to the conclusion that malarial poisoning had much to do with it. The next step was to try what effect the administration of anti-malarial remedies might have, and as these invariably gave relief he felt safe in assigning malarial poison as the real cause of the trouble. In tracing its action, he found malarial poison disturbed the circulation, and favored congestion and inflammation. When we consider the position of the pulp, enclosed in dense bony walls, we can readily see why it is so sensitive to any disturbance of its normal circulation or blood supply. As a result of these conditions we first have inflammation, and its accompanying

odontalgia; this, if not relieved, is soon followed by strangulation at the apical foramen, owing to the congestion, and death of the pulp follows. He had no doubt this was the history of nearly all the dead pulps he found in some teeth, and this also explained why, in teeth he had filled, he had found the pulps dead shortly after the patient had recovered from a malarial attack; and why he had so often failed in capping exposed pulps, although for a year or so they promised well. In these cases the previous injury, lowering the vitality of the teeth, made them more susceptible to injury; but why, when all the teeth were sound, one or two pulps should die and the rest escape, he did not know. Physicians practicing in his neighborhood have noticed that often the first symptom of malarial poisoning is dental irritation. This may occur sufficiently in advance that prompt administration of quinine will abort the attack. Whenever he meets with odontalgia of a neuralgic character, for which he finds no visible cause, he prescribes three or four grains of quinine every three or four hours, until thirty grains have been taken; his object being to bring the patient under its influence as rapidly as possible. He finds it necessary to use large doses—probably smaller doses would suffice where malaria was not so prevalent. He also found advantage in using quinine in moderate doses for several days before dental operations, even when the patient is not suffering from malaria. Nerve capping he found very uncertain, especially between June and frost. He had written the paper to call attention to the subject, with a desire to know if other dentists practicing in malarial districts have had the same experience.

DISCUSSION.

Dr. C. S. Beck had met with several cases of odontalgia without any visible cause, which he had relieved with quinine, giving some twenty or thirty grains in the course of a day—the patients resided in a malarial district. Dr. Klump is entitled to credit for calling attention to the subject, and the care with which he has studied it.

Dr. W. H. Trueman: Dr. Klump's paper is excellent and timely. The subject he has chosen is becoming more and more an important one to the dental and medical professions. Not alone to those who practice in malarial districts, but to all. Modern improvements have introduced malaria into our city homes—it has invaded the parlor, the bed-chamber, the work-shop and office. Attentive readers of medical literature have noticed within the last few years to what an alarming extent malaria, in its various forms, has become not only a formidable disease, but it complicates and aggravates nearly all other diseases. No doubt many cases of tooth trouble, for which we see no cause, have been due to it, and no doubt some where we do recognize a cause would be relieved by moderate doses of quinine for a few days. He had no doubt in unhealthy districts "heroic" doses were needful, but

in his practice had found from three to six grains a day sufficient, and often directed its use.

Several gentlemen spoke of having used quinine to relieve odontalgia, with advantage, and were pleased that Dr. Klump had made such good use of his opportunities as shown by the paper presented. Several questioned the propriety of such large doses—except in malarial districts—and thought harm would be done to give it so freely to patients not accustomed to its use, and where the malaria exists in a milder form.

Dr. Magill called attention to the provision of the dental law requiring all dentists in the commonwealth to register an affidavit in the recorder's office stating how long they had been in practice, etc., and asked how that affidavit should be worded. After the matter had been talked over it was decided to request the committee on Enforcement of Dental Law to have a proper form of affidavit prepared and publish the same as soon as convenient. For form adopted, see *Dental Cosmos* for Sept., 1883, i. e., vol. xxv., page 501.

The President-elect, Dr. Guilford, after being installed in office, appointed the following standing committees:

Enforcement of Dental Law—W. E. Magill, J. W. Rhone, J. C. Green.

Dental Legislation—Drs. Litch, Miller, Jack, Robb and Fundenberg.

Publication Committee—Drs. Magill, Kremer, Ansart, James Truman, Miller.

Executive Committee—C. S. Beck, E. D. Long, C. N. Pierce, G. L. Simpson, E. T. Darby.

The Society then adjourned to meet at Wilkesbarre, July 29, 1884.

ED. "ITEMS OF INTEREST:"—I have in my possession a remarkable case of exostosis. It is a consolidation of the roots of five teeth—three molars, one bicuspid and one cuspid, which I removed with difficulty from the superior jaw of an English lady. Every root of each molar was completely exostosed to within one-eighth of an inch of the crowns. The thickness of each root was more than double that of normal size. The bicuspid was exostosed fully one-half the length of the root, and the cuspid only slightly enlarged. The patient had suffered extreme pain at different times, and their removal seemed advisable, although with one slight exception the teeth were sound. I have never seen a case that will compare with it.

Yours, HENRY E. JOHNSON, D.D.S., North Attleboro, Mass.

[Was there any connection between the pain this patient suffered and this exostosis? Is it probable that this abnormal growth and union of the roots of these teeth were recent? or were both probably original with the growth of the teeth?—ED.]

OUR PERIODICAL DENTAL LITERATURE.

BY LOUIS OTTOFY, D.D.S., GRAND FORKS, D. T.

One of the great factors of dental education consists of the monthly and quarterly visitors—the dental journals. If properly appreciated, this factor can be made to be of more advantage than any other in a professional life.

A large number of the dental journals published at the present day have sprung into existence within the last fifteen years. The first that was ever published was issued in this country nearly fifty years ago, and the *last* also made its appearance in this country not quite two years ago. There are at present 38 journals published in the world, which are devoted to our specialty; of these, 29 appear monthly and 9 are quarterly. The English language contributes 24, the German, Spanish and French each 4, and the Italian 2. In the United States there are 13 monthly and 7 quarterly publications.

In France, 4 monthly.

In Germany, 3 monthly and 1 quarterly.

In England, 3 monthly.*

In Italy, 1 monthly and 1 quarterly.

In Cuba, 1 monthly.

In Spain, 1 monthly, and lastly, Central America, 1 monthly.

The English language contributes 24 to 14 of all other languages, and the American continent is credited with 23, the balance of 15 being published in Europe.

We have not had the pleasure of perusing any of the Spanish or Italian journals, and therefore can say nothing in regard to them.

The European journals, generally, are published independent of dealers in dental goods. C. Ash & Sons, of London, however, publish three or four in so many different languages, but the balance are not connected with any dental depot.

The dental publications of Great Britain are, or at least ought to be, well known to American readers; we do not believe them to be filled with such practical matters as those of this country. They generally contain copious, thoroughly mastered scientific articles from the field of active research; they abound with wholesome, intellectual food. At present, and for some years past, they have nobly labored to establish and give the profession a high standing; and though they also, like other journals of Europe, object to the wholesale immigration of American dentists to their side of the water, they do not abuse our schools as bitterly as the continental journals. They publish fewer extracts from the American dental journals than the Germans do, but generally they get the best.

[*1 Semi-monthly.—ED.]

The French are great experimenters, and their journals usually bring the labors of months of experimenting and trying ordeals. They do not seem very friendly to American dentists, partly because such large numbers have studded the streets of Paris with their signs, "Dentiste American;" yet their attacks are not very fierce; they are quietly but hard at work with some reformatory schemes, which will eventually make it as troublesome for an American to settle in France as it is now in England. Their productions in the journals are generally concise, to the point, but no more practical than the English; in reading them one would judge them to be mostly "dental surgeons," rather than what the word "dentist" implies. They are more profuse in adopting by translation the "cream" of American dental literature, but do not give as much space to reports of dental societies as the English.

The Germans are the most peculiar, from an American standpoint; they are great and deep thinkers, hardy searchers after the truth, but lack that practical ability which has made American dentistry what it is to-day acknowledged to be. They dislike our schools and systems, and oppose the American dentists as much as possible, though for this they are not so much to blame if we remember the Buchanan diploma traffic of a few years ago. They are particular about titles, and fight the "crooks" with the powerful tomahawks of law. They respect us as men, and invariably credit us with all that is our due, which is not generally the case with our dental journals; they translate a great deal from us and combine the work of American practical intellects with their thorough knowledge of medicine. They are fond of long society reports, and generally have pleasant dinners connected with them, and they hold their sessions on Sunday as well as on other days, nothing at all peculiar to them, though it seems odd to us. Their journals are generally on good paper, but not bound as neatly as the average American journal.

In America there are, by one, more journals than dental colleges, (there being 19 of the latter and 20 of the former) and all except two, I believe, are published by dental dealers. Without prejudice against the foreign literature, we believe the Americans are the most practical, as contrasted with foreign journals; we find the latter filled with articles on the most useful points of every-day practice, and the result is that in the United States there are, in proportion, less well educated, but a greater number of practical dentists than in Europe. Another commendable feature of American journalism is the harmony which prevails; they all *seem* to be friends, while on the other hand some of the European cotemporaries are frequently on the war path—especially on the questions of "Mechanical Dentist" and "Dental Doctor."

We like this feature of dental education; we think they, the dental journals, are our main help in practice. Most of the college cramming

might have "gone before," or departed from us. We can't all attend dental societies, and then they only keep us a short time; the journals are with us all the time, they are handy for reference, and practical when read and re-read as we go along. Study with the *practice* is what makes us dentists.—*Missouri Dental Journal*.

DENTAL SOCIETIES.

BY DR. A. C. SCHELL, KANSAS CITY, MO.

[Read before the Kansas City Dental Society.]

No one will deny that it is an advantage to a man to connect himself with a society composed of men belonging to the same profession. We are all aware of the fact that much of our knowledge is gained from observation, and by contact with others. When a matter is explained to us verbally, it takes a more lasting impression than if we were to read the same words. So if a fact is demonstrated to us, we comprehend it more readily than we could by *reading* a description of it; so that man is to a great extent dependent on his fellow-man for a clear and correct idea of any subject he may undertake to investigate, consequently the advantages of social intercourse are many. In the first place we become a union of men, brought together by a common interest.

Channing says: "Men not only accumulate power by union, but gain warmth and earnestness." An electric communication is established between those who are thus brought together, which unites them on matters in which all are interested. There is something about this human sympathy that opens up our hearts and makes us communicative, so that by this sympathy we may nurture a higher professional standing.

Each is brought under the criticism of all the rest. Then by comparing ideas we get a better knowledge of the matter in which we are interested. It is by imparting ideas to others that they are helped to assume definite form in our own minds; consequently we see at once the advantage of such a society to the seeker after knowledge, and to those desirous of elevating the profession we love to the highest possible standard.

Such societies cultivate the higher powers of the mind and best impulses of the heart; the older members are encouraged to cull from years of experience cases of interest, giving plan of treatment, cause of failure, or secret of success, also their present plan for the treatment of similar cases. Such knowledge imparted to the younger members will certainly be instructive as well as interesting.

Then the younger members, who are fresh from their studies, and have been investigating and making themselves familiar with the new

inventions and discoveries brought into use, can give the older members new and useful ideas ; thus we can instruct and encourage each other.

Among the effects of social union, one of the most pleasant is that we are brought together and become acquainted with each other's personal characteristics, and learn something of those better qualities that exist in every man, and which will have a tendency to make us more charitable and kind towards one another ; it aids in developing feelings that will cement us together in professional sympathy and fraternal love. There is nothing that so much hinders the advancement of any profession and lowers it in the estimation of a community, as the constant petty bickering and jealousy so often indulged in by its members. If we would enter into these meetings with the proper spirit, the tendency would be to make us more guarded in our conduct toward each other ; it would naturally incite us to higher and nobler thoughts, and stimulate us to more earnestness of purpose, thus making us realize "how pleasant it is for brethren to dwell together in unity." Aside from the social effects, such meetings are of great advantage to us in other respects. We will be compelled to think and investigate in order to be able to take part in discussing the questions presented for our consideration.

There is a fire awakened in us when our opinions are disputed ; we become interested, and give a subject more thought and gain more knowledge of it than in any other way. A society such as this, where only worthy and well qualified men are admitted, has the power to draw the line between charlatans and the men worthy of patronage, and the people will come to learn that there are two classes of dentists, one composed of a class who stand well enough to be admitted to a society where only competent men can enter, while the other class are debarred on account of lack of qualification.

We owe it to the people to have this matter presented in some such light that they may know how to discriminate between first and second rate men.

I hope in my feeble attempt to present this subject I have convinced you that a *city dental society* will be of great advantage to the profession, and hope it will have the effect of stimulating you all with a desire to make it a success, willing to give it your time and attention and by every effort in your power carry out the different objects in view, realizing that what we do is in the interest of our noble profession, so that when the tired hands have put aside the excavator and plugger, and have been laid across the breast of the worn-out body, and we have-gone to our last resting place, those who come after may speak well of us, and say we were earnest and faithful, and that our lives were worthy of imitation.

DENTAL CARIES THE RESULT OF CIVILIZATION.

BY DR. S. H. KING, LINCOLN, NEB.

In the October number of the *Dental Practitioner* appears an article from the pen of Dr. W. C. Barrett, of Buffalo, in which he gives the result of an examination of several hundred skulls of pre-historic races, at the Peabody Museum of Archæology, Cambridge, Mass., made with a view of determining whether or not dental caries is a modern disease.

I desire briefly to review the facts therein contained, and see if Dr. Barrett is justified in the conclusions which he draws therefrom. He says he examined two hundred skulls of adults of the ancient Peruvians. Of these "one hundred and two presented indications of oral disease, forty-three possessed a perfect dentition and evidence of healthy mouths; the remainder were in such a state that it was impossible to determine their condition at death." Therefore there were only one hundred and forty-five of these specimens examined by the writer which were of any service to science, and of those he finds thirty per cent perfect dentures, without trace of dental or oral disease. Does Dr. Barrett imagine that he can find in each hundred adults of the civilized nations of to-day, thirty who have perfect dentures without trace of oral disease? I doubt if he would find three.

He also speaks of the evidences of alveolar abscesses, absorption, calculus, etc., which he found in these specimens, which might naturally be looked for as concomitants of the other conditions stated.

But the great mistake the doctor makes is in presuming that this "people of whom these bones were relics * * * were not contaminated by the vices of modern civilization, but lived a life that was as near the typical natural one as the most conservative foggy could desire." Now, had the writer consulted *Bollaert's Antiquities, Ethnology, etc., of South America*, he would have learned that this people whose remains he examined were quite advanced in civilization, and though not very modern, it probably had similar vices.

Their civilization and culture is clearly attested by the ruins of their large cities, in which were found many fine works of art. Their architecture was adopted by their successors, the Incas. On the shore of Lake Pitacaca are the ruins of Tiahuanacu, containing sculptured monolithic doorways, pillars standing in lines at regular distances, immense masses of hewn stone some thirty-eight feet long by eighteen broad, and colossal statues thirty feet in length. The ruins of this supposed capital of an ancient government are situated nearly 13,000 feet above sea level, its altitude rendering it a frozen desert. Twenty-five miles south of Lima are the remains of another city which this people inhabited, in which was a magnificent temple. "When the Peruvians of Cuzco carried their victorious arms across the Cordilleras to this dis-

trict they beheld this temple, the doors of which are said to have been of gold inlaid with precious stones; they were astonished, not only because it surpassed in splendor the famous Temple of the Sun at Cuzco, but because it contained no image, or visible symbol of a god. It was raised in honor of an invisible and mysterious deity whom the inhabitants called Pachacamac (the Creator of the world). The conquerors did not dare destroy this temple, but contented themselves by building beside it a Temple of the Sun."

It is justly claimed that the enlightenment and civilization of a people may be correctly estimated by their religion. If we apply this rule in judging this Pre-Incarial nation, we must conclude that they were in a far more advanced state of civilization than were the Incas. Sufficiently so at least to have learned the culinary art, and to this may be attributed largely the abnormal condition in which are found the teeth in their remains. Yet, according to the data furnished by Dr. Barrett, these people, without dentists, suffered only a tithe of what the civilized peoples of the present time do.

The only other definite results which the doctor gives of his investigations, are of the skulls of seventy-five of the ancient mound-builders; of these, twenty-seven (thirty-six per cent) were free from disease, and only thirty-two cases of caries, or, in other words, sixty per cent were exempt from caries of the teeth.

What the habits of the mound-builders were must always remain a mystery, but their rude implements and vessels of pottery would at least indicate that they too were in a measure posted in the processes of preparing toothsome viands.

An astronomical calculation, based on a few seconds of an arc, is always accepted with the probability of great error. So, if we go back but a few hundred years, which amounts to but a small part of the great cycle of time since the advent of man on this planet, we must remember that we do not find him in his "primitive glory," and probably the nearest type of this ideal being we shall ever behold is found in the gorilla, chimpanzee and ourang-outang. If the reader objects to such an ancestry, he may embrace the Digger Indian as the most primeval specimen of the genus homo, and among all these he will find no more dental lesions than among the brutes, which, by the way, are not wholly exempt from them.

Dr. Barrett says he "went there a believer in the modern origin of dental lesions," and, substantially, that the habits of civilization were responsible for not only these, but other physical defects. But these investigations seem to have knocked the bottom out of these theories, as he says "they will not hold water."

Respecting their modern origin, the doctor has been corrected in his opinion.

In the mouths of the mummies of ancient Egypt are unmistakable evidences of the same dental defects which are troubling their posterity.

But, with him I have long believed that habits of civilization—the preparation of food in such manner as to deprive it of essential nutritive elements, also rendering it soft and pulpy by culinary processes, thereby exempting in a large degree the dental organs from the service of mastication, continued for unnumbered generations—have produced the results which we find to-day, and his investigations confirm me more strongly in this opinion.

The report from the mound-builders—those lowest in the scale of civilization—is more favorable than that from the ancient Peruvians, and either were troubled far less than are the higher civilized people of our time.

These dental defects, in my opinion, have been gradually growing upon the races during long ages—since the time when food began to be prepared by fire, down through, perhaps, a thousand centuries. We learn from the best writers on the origin, development and modification of the species, that nature does not continue for an indefinite period to expend her forces in vain—in the production and support of organs which are not utilized and which changed conditions may render useless.

If the young man of leisure or sedentary occupation desires a good muscle, he cultivates it in the gymnasium. If “the coming man” follows our present modes of living, he must resort to dental gymnastics or his teeth must go.

PULLING THE WRONG TOOTH.

REMARKS IN THE N. Y. ODONTOLOGICAL SOCIETY.

Dr. Francis: Many times in the course of my practice I have had patients call upon me seeking relief from pain in their teeth, when they were unable to locate the seat of the pain. I recollect a patient calling upon me many years ago, requesting me to extract a superior twelfth-year molar, which he said was aching violently. I examined the tooth, but could see no reason why it should give him pain. He insisted, however, that I should extract it. Of course, I declined. I made some application to the gum which seemed for the time to relieve him, and he went away. The next day he returned, stating that the toothache had recurred, and that I must remove the tooth. There was a small tin-foil filling in it, which had been there probably many years. Thinking that there might be some defect beneath it I removed it, but found no trouble there, as the dentine appeared to be in perfect health. I made another application which seemed to give relief, and he went away. He called again the next day after, and was determined that I

should take the tooth out. He said he had recently parted with the first molar and a bicuspid, which was very evident from the vacant spaces, and he wanted this molar removed also. He declared that the pain was in the upper jaw, and in that tooth, but, after thoroughly examining it, I could detect no cause of trouble there. I then examined the lower teeth, and found a third inferior molar partly concealed by the gum; I lifted the gum from it and discovered a deep cavity, which proved the source of his trouble. He had already lost two valuable teeth unnecessarily, and if he could have persuaded me to remove them he might have lost half a dozen more good teeth without remedying the difficulty. The removal of this tooth removed all trouble.

Dr. Dodge: There are cases of a decidedly neuralgic nature, the symptoms of pain being located at the side of the head and face, and having no apparent connection with the teeth. Probably I can best describe such cases by relating one or two that have come under my observation within a short time. A lady came to see me a few months ago, saying she had been treated for about eight months by a physician for neuralgia. She had suffered so exceedingly that—her physician having told her that possibly her teeth had some connection with it—she was ready to have every tooth in her head out rather than suffer longer the pain that she had endured for the last eight months, and which had made her life miserable. Up to that time she had enjoyed the best of health, and since that time she had been wretched. After thoroughly questioning her as to the symptoms I examined every tooth, and I came to the conclusion that a second bicuspid in the lower jaw was the cause of the trouble; and the reason of my coming to that conclusion was that all the ordinary remedies seemed to have failed in giving the least relief, and that on percussion that tooth had a decidedly different feeling from any of the others. I removed a filling from that tooth, and the moment I did so a quantity of pus, perhaps equal in size to an ordinary pin-head, was forced out of the pulp-chamber. The pulp was alive, or a portion of it, so much so that it was decidedly sensitive when I attempted to introduce a broach into the pulp-cavity. At that time I washed the cavity with tepid water, and applied creasote and afterwards arsenic, then extracted the pulp and filled the root. The neuralgia ceased from the first application of the creasote. I have seen the lady frequently since, and she has had no return of the neuralgia.

Another case occurred, perhaps a couple of years ago, in which I received a note from a physician to come and see a brother physician who was confined to the house, and had been for three days, with a neuralgia which refused to yield to any of the ordinary remedies. I went to see him, and he told me that it had been suggested by some medical friends that possibly his teeth were at the bottom of his trouble,

but he did not think so himself. He had been to his dentist, who had examined his teeth thoroughly without discovering that there was any disturbance or decay in any of them. I examined them, and I determined, from the symptoms, to remove an amalgam filling from the first lower molar on the left side, and I found there pretty much the same condition that I have described in the other case. An application of creasote seemed to stop the pain at once, cured the neuralgia, and there has been no recurrence of it from that time on. And I think that if there ever was a person really grateful for relief from pain that man was at that time, and has been ever since. I see that this question has been agitated lately and brought to the notice of physicians. A number of friends have spoken of that class of cases which they are called upon to treat from time to time, and, while the cause is obscure and requires, perhaps, a careful inquiry and examination to find it, yet I think that in the vast majority of cases of facial neuralgia which do not yield to the ordinary remedies we may look for the cause of the trouble in the teeth; and sometimes by a dentist attempting to do something, or doing something without really having any special reason for it, it may result in just such disastrous blunders as in the case related by Dr. Francis, in which a gentleman lost two valuable upper teeth when the cause of the trouble was in the lower jaw.

Another case which a physician related to me, the case of a lady, the wife of one of the best known men in the city, whom he had been treating for neuralgia for some time. Occasionally the neuralgia would yield to his treatment at once, and at other times the treatment would not have the slightest effect. He said the pain seemed to be something terrible, and he had been at her house night after night, and on one occasion three different times in the course of one night, the pain was so severe. He asked me if I thought the cause of it could be in any of her teeth. I told him I thought probably it was, from the symptoms. He desired me to see the lady. I told him that undoubtedly she had her own dentist, and I suggested that she go to her dentist and have her teeth examined. She went to her dentist, and he, supposing he must do something, extracted a first molar in the lower jaw, the only molar she had that occluded with any of the upper teeth. That operation gave no relief whatever. The cause of the trouble proved to be a bicuspid, an adjoining tooth, which had an exposed pulp and was suppurating under the filling. The pain was relieved just as readily and easily as in the other case I have mentioned. I think that these cases are serious in their aspects, both in the amount of pain the person has to suffer and the serious amount of nervous prostration that ensues, and it certainly taxes the patience and resources of the physician to find remedies for the relief of this intense suffering. I think dentists can do a great deal of good by informing physicians as to the cause of the trouble in these cases.

IS DENTISTRY A SPECIALTY OF MEDICINE?

REMARKS BY DR. L. C. F. HUGO, WASHINGTON, D. C., BEFORE THE
SOUTHERN DENTAL ASSOCIATION.

Dr. Hugo would answer the question "yes" and "no." Undoubtedly, by origin, we belong to medicine, but as undoubtedly by development we belong to ourselves. Dentistry is a specialty of the healing art. In the light of practical importance, however, what does it matter to us if dentistry is or is not called a "specialty of medicine," or a "specialty of surgery," or a "specialty of what not?" This much is certain, that the salvation of this nondescript has been and ever will be in her own hands.

Considering the objection urged against dentistry by physicians, that it is unprofessional, because it is merely mechanical, the paper contended that the operations of the dentist were in no sense more "merely mechanical" than those of the surgeon. Does not the surgeon use needle and thread, hooks, nippers, knives, saws, chisels, etc.? We know that he uses these tools with his hands—yet his is a *professional pursuit*! Is our vocation any the less professional because we attend to certain lesions in man's physical nature, while the surgeons (and the physicians) attend to others? True, there is a vast difference between our treating antral abscess, or a broken jaw, or cleft palate, and the surgeon's performing capital operations. Yet, in all cases the hands are used, and their work gives executive expression to the trained, remembering, thinking, reasoning, concluding, directing brain. Certainly the mechanical does not play an ignoble part in the all-claiming science of medicine; for surgery, until within a short time, was almost the only stable and positive element in the Esculapian's calling. In examining medical practice for the last thirty years only, we must acknowledge that medicine has been but too long a "blindfolded man with a club in his hand," though thanks to the great progress of late years in physiology, pathology and histology, the man with the club is beginning to see where and when to strike. The paper then instanced some of the most marked changes in methods of medical treatment within thirty years, as illustrating the fact that, while the mechanical element in dentistry can at its worst be dangerous only to the dentist's claims of professionalism, the tentative element in the physician's work can become dangerous even to human life.

The physician also says we send young men to college who lack the rudiments of even a common-school education; that anybody, whether qualified or not, can hang out a shingle and thus become a "doctor," with all the "privileges and emoluments" of the dental profession, and further, that about two-thirds of the dentists are made in this way; that we advertise in newspapers a price-list of our fees; that we make

known our calling by shop window exhibitions; that we notify the public of our occupation by means of two silver-plated signs, a swinging sign, and two side signs—all at the street entrance, within a radius of five feet; that at some dental establishments teeth are extracted, with the gratuitous removal of alveoli and portions of the jaw bone—all for fifty cents a tooth, gas and street-car tickets thrown in.

These are extreme cases, you will say. Very true; yet those persons alluded to are dentists, and the dental profession as a whole suffers for their shortcomings, since the line of demarkation between the truly professional gentleman and the blatant charlatan is not quite decided enough to be distinguished by the general public. I am well aware that there are physicians who advertise, who adorn their offices with a multiplicity of signs, who professionally cut each other's throats, who lend themselves to abortionism, etc; but my object is not to point out the defects of others. I wish only to bring home to our realization wherein we sin and where our professional standing is suffering. Of course, we cannot be expected so soon to have attained even approximate perfection; but I think we are blamable for the eradicable blotches defacing the otherwise fair escutcheon of our profession.

Let us now bestow for the benefit of wholesale, indiscriminating detractors, a few words upon the science of dentistry as we find it in the abstract. The impartial observer is most forcibly struck with the marvelous development of dentistry since 1840; that is, since its separation from medicine. Truly disheartening and inauspicious were the circumstances attending the beginning of independent rational dentistry. In view of the record of the medical fraternity in connection with all the great revolutionary discoveries of modern times, the opposition which Chapin A. Harris met with when he proposed the development of and radical changes in the treatment of the teeth—the “dental experiment,” as medical bigwiggery was pleased to dub it—was to be expected. Dentistry had, indeed, an humble start in life, but humbleness is the beginning of all greatness. The beginning is the centre of an ever-increasing ball; perseverance and time are the centrifugal forces; greatness is the expanded sphere. Within forty years dentistry has revolutionized the treatment of the oral cavity. It has introduced more humane instruments and practices. It has saved myriads of defective teeth—restoring them to usefulness—that under medical care would have been relegated to the tender mercies of the turn-key. It has passed its magic wand of salvation over all lesions of the mouth. It makes substitutes for lost oral organs more perfectly restorative functionally and esthetically than the products of any other prosthetic art. And last, but not least, it has bestowed upon mankind one of the greatest blessings since the introduction of vaccination—the employment of anæsthetic agents for surgical operations. In a

word, dentistry of to-day is the product of a beneficent change from indiscriminating, spoliative, radical cures, to intelligent, conservative, restorative cures; from what was the *avocation* of a physician, a barber, or a blacksmith, dentistry has developed into the legitimate, expanded *vocation* of a man who makes the case of the oral cavity his especial and engrossing life-study; from a crude method of practice it has become an exacting, rational art and science. Judged by dental science in the abstract, the standing of the dentist ought to rank equally high with that of other specialists of the healing-art. It lies with the representatives of dentistry, with their more elevated, more truly professional bearing, and more thorough and liberal education, whether dental science, judged by the dentists, is worthy of belonging to the learned professions, or whether it is to be classed as a branch of skilled labor. The science has done its duty; let the men representing it do theirs.

GREASING IMPRESSIONS.

On page 393 of ITEMS OF INTEREST for October, 1883, Doctors Reese and Atkinson tell us that "by this method no oil need be used, the impression parting from the model with as much ease as though oiled, and without any of its disadvantages."

I have two models before me on the bench—one was made from an impression *exactly as they directed*; the other was made from an impression prepared according to my long established custom. The latter is smooth, clean and *perfect*; the former is greatly marred by bits of the impression, which adhered so tightly it had to be removed piecemeal. The "thin coating of shellac" did not all come off with the impression, but still adhered to the face of the model, and cannot be got off without scraping, (or washing in alcohol) and that process will scarify the model. The two cases appear so different no one would think the same person made them both, and yet each was prepared with equal care and skill.

The trouble was caused wholly by the doctors' directions *not to oil the impression*. Now, since "I have been there and seen the elephant," I hasten to give my experience for the benefit of my fellow dentists. In all probability I shall have to take another impression and make another model *right*, before I can get a satisfactory case. Had I oiled (slightly) *as is my custom*, before placing the impression in water, none of this botch-work would have appeared. Their teachings are correct, except that merely placing the model in water after varnishing is not sufficient; that is wrong. Brother dentists, coat your varnished impressions with a thin film of oil before immersion, if you desire easy and speedy success.

G. W. ADAMS, Bristol, Pa.

NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

(CONCLUDED FROM PAGE 449.)

OPERATIVE DENTISTRY.

- 1 What is dental periostitis? in what respect is it peculiar? and what is the treatment?
- 2 Name and describe the various affections of tooth pulp and the treatment proper for each.
- 3 Give the peculiarities of hyper-sensitiveness of dentine, with principles and modes of treatment.
- 4 Describe the common points to be observed in the preparation of a cavity for filling.
- 5 Name and describe the various steps in the introduction of a gold filling.
- 6 Mention some of the common causes of failures in filling teeth.
- 7 How does filling arrest the decay of the teeth?
- 8 What qualities are requisite in materials used for filling teeth?
- 9 Give the origin, manner of deposit, and effects of salivary calculus.

PROSTHETIC DENTISTRY.

- 1 What anatomical and physiological changes are occasioned by the loss of the teeth?
- 2 What restoration is prosthetic dentistry able to give the toothless?
- 3 Name, in the order of their importance, five points that should be attained in the insertion of artificial teeth.
- 4 What are the requisite properties of materials for constructing artificial dentures? Name the different materials in use, in the order of their value.
- 5 In what condition should the mouth be for the proper reception of a denture?
- 6 Describe a method or methods of making an accurate model for constructing a set of teeth.
- 7 What will guide in the arrangement of artificial teeth?
- 8 Describe the various modes of retaining artificial teeth in the mouth.
- 9 What are the advantages and disadvantages of gold, of continuous gum, of rubber, and of celluloid as a base?

IRREGULARITIES.

- 1 What are the most common causes of irregularity of the teeth?
- 2 Give instances of irregularities of a congenital nature, with approved modes of treatment.
- 3 Name some accidental irregularities, and manner of treating them.
- 4 What diseases are most frequent causes of lesions of the jaws and palate?

5 Under what circumstances will neglect or unwise treatment of the temporary teeth lead to imperfect development of the temporary ones?

6 Are the maxillary arches capable of expansion? if so, by what means?

7 What would be the best means of regulating a crowded arch with the cuspids standing inside the line?

RESOLUTIONS ADOPTED BY THE NATIONAL ASSOCIATION OF DENTAL EXAMINERS.

The following resolutions were adopted at the late meeting of the National Association of Dental Examiners:

1. *Resolved*, That a committee of two, consisting of the president and vice president, be appointed to act with the secretary in carrying out the requests of this association.

2. *Resolved*, That this association enjoin its members to accept the diploma from no college which does not require two full regular courses of lectures, or its equivalent—one full course and five years' practice—previous to granting such degree.

3. *Resolved*, That this association insists that no board now connected with this body shall confer degrees or titles of any nature.

4. *Resolved*, That this association urge upon the State societies of all States where no law exists the necessity of an immediate effort for such legislation.

5. *Resolved*, That this association furnish all the State societies with a copy or copies of a well-digested law, so that uniformity in legislation as far as practicable may be attained.

Dr. Hayhurst said that under the peculiar circumstances by which he was surrounded he ought not to let the third resolution pass without remark. The New Jersey board has been very desirous to have the power to confer the degree of Master of Dental Surgery. A committee was appointed last year to represent the matter to the legislature, and it was finally argued before a committee of the legislature, but without securing the legislation asked. At a late meeting of the board the report of the committee came up for action, and the committee was continued. The same effort will be again made.

Dr. Lewis said, there was a time when the power to grant degrees might have been conferred on an examining board, possibly with benefit, but he thought that day was past. The object in passing laws and getting a board of censors appointed was to drive the young men intending to enter dentistry into the colleges. He despised a catch-penny diploma. We have reputable colleges to which we can send our sons and friends, where they can become properly qualified. To go before an examining board having the power to confer degrees was a cheap way to get a diploma. He believed in a thorough examination and a thorough course in college before any degree was granted.

Dr. Peirce said that this resolution was brought before the association for the express purpose of strengthening the hands of those who are opposing any legislation which will enable State boards to grant degrees.

Dr. Rehwinkel. We have already adopted the resolution refusing to recognize the diplomas of dental colleges which grant degrees upon examination. To be consistent we must adopt this. Why should we refuse the colleges this right and give it to the State boards? Laws for the regulation of dentistry are not intended to give the right to grant a degree. It is only intended to give the right to ascertain the qualifications of candidates to practice dentistry. The adoption of this resolution may prevent the State board of one of the largest States from joining in this movement, but that should not stand in our way. In New York the degree M.D.S. (Master of Dental Surgery) is granted by the State board of censors.

Dr. Chappell. There are some questions to be developed with regard to the rights of State boards in these matters. He understood that the question was now pending before one of the State supreme courts. If we adopt this resolution we shall shut out New York, Louisiana, Iowa, and Ohio, and perhaps others.

Dr. Lewis. We cannot afford to let down the bars in this matter. If the medical student could go before a State board for examination, where would the medical profession be? The man who goes into the practice of medicine without a diploma is called a quack. Yet we pretend to be regular doctors of dental surgery. Let us be consistent. The speaker did not approve of the granting of any degree by a State board. The result of the action of the medical profession in requiring a regular education has been to drive all the young men seeking to begin the practice of medicine into the medical colleges. Let us have every help we can in crowding the young men into the colleges, there to receive the proper education for the practice of dentistry.

Dr. Harlan read an extract from the paper of Dr. A. H. Thompson in the *Dental Cosmos* for August, to show the influence which the examining boards will have on the future of dental education if their power is wisely directed.

Dr. Thomas. It is hardly to be expected that a matter so far-reaching as the resolution under discussion will be adopted without a dissenting voice. It seems to be feared that some of the State boards will not acquiesce in its demands. If so, that will be their misfortune, not ours. It would be well, however, if possible, that unanimity should prevail in all our recommendations. In this interest, he would offer a resolution as a substitute for the one under consideration, that the committee on programme report to this body a form of certificate

to be issued to those found qualified to practice dentistry upon examination by the various boards.

Dr. Cushing. There seems to be a misconception on the part of some of the gentlemen present as to what a title is. New York permits its board to confer a distinct title, M.D.S. This is not the equivalent of the certificate of qualifications conferred by other boards. These certificates are in no sense titles, and are not so intended by the laws which confer the right to inquire into the fitness of applicants to practice dentistry. This resolution is to point out the course which it seems proper the State boards should pursue. Dr. Thomas' resolution is all right in its place, but not as a substitute for the resolution under discussion.

Dr. Smith would have a uniform method or form of certificate adopted by the boards. The size also should be such that it could not be mistaken for a diploma.

Dr. Rehwinkel thought it was important to understand precisely the object of the resolution. There seems to be some difference of opinion as to the scope of a certificate, and what it comprehends. Illinois does permit the issue of a license; the speaker doubted if Ohio does. All the Ohio law contemplates is that the examiners shall ascertain the candidate's qualifications. New York gives its State board the right to confer a title, which is used by those who receive it the same as M.D. D.D.S., and it is held out as an inducement over other State boards. Some colleges claim that they have the same right as the State boards to examine applicants and give them the degree, when found competent, without attendance upon lectures. Of course they have the right to confer the honorary degree, and if honestly done, it is proper. Where a man has achieved reputation it is right and proper to give recognition to his merit. But the idea that any college can take a young man and examine him without requiring attendance on its lectures, and confer the degree, is not to be entertained. It is certainly incumbent on this association to state its opinion on this subject; while it may not presume to dictate, it is right that it should speak in no uncertain tone.

Dr. Williams, while in sympathy with the spirit of the resolution, could not vote for it without some modification. If the resolution, instead of "insist," should read "recommend," or some other similar word, he would vote for it.

Dr. Hayhurst, without expressing his own private opinion on the subject, could not, as the representative of a divided board, vote directly opposite to what he knew to be the spirit of that board.

Dr. McElhaney. We, in Georgia, do not recognize the New York degree as of any more value than our certificate. If an M.D.S. came to Georgia to practice, we should put him through an examination.

If he had the degree of D.D.S. he would not have to pass an examination. Perhaps it would be better to "recommend" rather than to "insist."

Dr. Thomas. We are legislating, so to speak, to prevent the acceptance by the uninformed public of a certificate granted by a State board as of equal value with the diploma of a dental college.

Dr. Coyle thought it would be impolitic to recommend to the State boards that they shall become schools of dentistry, and that is what they would practically become if permitted to confer a degree.

ARTICLE 2.

"DESCRIBE THE PROCESS OF DIGESTION."

[See Questions of National Board of Dental Examiners.]

PREPARED FOR THE "ITEMS OF INTEREST" BY W. S. ELLIOTT, M.D.,
D.D.S., GOSHEN, N. Y.

The preparation of food by cooking, etc., and its further reduction after entering the system, to a condition favorable for assimilation, is what we understand by digestion.

The demand for food is expressed by a sense of hunger,—an indication of a minus degree of energy of the system, raised to a plus condition by the reception of potential energy resident in the aliment.

All food must be capable of disintegration and solution, and must be possessed of given chemical elements, held in such moderate bond of unity as to be readily freed from their mutual embracement.

Digestion is a process of solution by hydration, wherein is a two-fold act, represented, in the first place, by a disintegration of the mass as such, and by a breaking up of the atomic bonds resident in the molecules.

Thus, starch, for example, is converted into glucose or grape sugar,—first, by the sundering of the cells from each other, mechanically; and, second, by the interchange of affinities of the atoms of both the starch cells and the water.

This chemical change, however, is made possible only in the presence of a third substance—a peculiar ferment called *ptyalin* or *diastase*.

In a mere commingling of starch and water there is no exhibition of chemical change, but let the starch become intimately associated with saliva, of which this ferment is a constituent, then is the reaction manifested by an equivalent deposition of glucose.

It is here that the interest of the practical dentist is the more pointedly centered; for, since it is intended by nature that starchy foods shall be so transformed, it follows, as a necessity, that the masticatory apparatus be in the most perfect order, and that the glandular excretions be free from all contaminations through abnormal functioning of the glands, or by obnoxious contacts in the oral cavity.

It is a truth a thousand times reiterated, that, if the teeth are deficient in any respect, they should be put in perfect order, and the mucoid tissues so treated as to result in normal functional activity. It is only under such favorable conditions that mastication and insalivation can be well performed.

Much consideration might be given to the preliminary reduction of food stuffs by grinding, cooking, etc., but it is more to the physiological aspect of the question that our attention is invited.

How truly this reduction of the food is a process of hydration may be shown by the following: Starch is the result of the combination of $C_6 H_{10} O_6$, to which add one molecule of water, $H_2 O$, resulting in glucose $C_6 H_{12} O_6$ or grape sugar.

In this synthesis the starch and water have lost their individual characteristics, and the product is one having the properties required by the system to enter upon the role of nutritive action.

It is evident, then, that thorough mastication is essentially necessary to prepare the food for the stomach; and it is thus proven how great is the error of rapid eating, and consequent insufficient insalivation.

If, from any accidental circumstance, the special ferment, diastase, is deficient in the saliva, or if it be of an impaired quality, recourse may be had to an artificial diastase—*maltine*. This is the product of barley malting where the starch of barley is hydrated into malt. It is a fact of practical importance that diastase, either natural or artificial, is inactive in the presence of an acid—a hint in the direction of perfect cleanliness of the teeth and entire freedom from acidulating deposits. Normal saliva is alkaline; the digestive fluids of the stomach, acid. It is, therefore, only within the brief moments during mastication, that the necessary hydration is accomplished.

Our thoughts now lead us into deeper aspects of the question; but our essay would be voluminous were we to follow to final conclusion the various phenomena attendant upon these processes, and analyze the associate nervous functioning that accompany and control them.

The office of each salivary gland may be briefly referred to in order to show the harmonious relationship to the variety of food which the cravings of the system seem to demand.

While the saliva, as a whole, transforms starch into glucose, the product of the parotid gland alone has no power to do so;* yet, it accomplished perfectly the first stage of reduction—that of liquefaction.

According to the authority of another physiologist † “parotid saliva * * * acts powerfully on starch.”

The product of the sub-maxillary glands is more viscid than that of the parotid. This viscosity favors deglutition, and in the carnivora

* Kuss, p. 217.

† Foster, p. 244.

these glands are large and capable in proportion to meet the special differentiations.

Mastication and insalivation being complete, the bolus, by instigation of the will, is forced back through the pharyngeal cavity, and the œsophagus, to the stomach.

FORM OF A STATE LAW RECOMMENDED BY THE NATIONAL BOARD OF DENTAL EXAMINERS.

The following is recommended by the National Board of Dental Examiners as the form of a State law :

An Act to insure the better education of practitioners of Dental Surgery, and to regulate the practice of dentistry in the State of ———.

SEC. 1. Be it enacted by the people of the State of ———, represented in the General Assembly, that it shall be unlawful for any person who is not at the time of the passage of this act engaged in the practice of dentistry in this State, to commence such practice unless he or she shall have obtained a certificate as hereinafter provided.

SEC. 2. A board of examiners, to consist of five practicing dentists, is hereby created, whose duty it shall be to carry out the purposes and enforce the provisions of this act.

The members of said board shall be appointed by the Governor, who shall select them from ten candidates whose names shall be furnished him by the ——— State Dental Society.

Three members, at least, of this board, shall be members of the ——— State Dental Society.

The term for which the members of said board shall hold their offices shall be five years, *except* that the members of the board first to be appointed under this act shall hold their offices for the term of one, two, three, four, and five years respectively, and until their successors shall be duly appointed.

In case of a vacancy occurring in said board, such vacancy shall be filled by the Governor from two names furnished him.

SEC. 3. Said board shall choose one of its members president, and one the secretary thereof, and it shall meet at least once in each year, and as much oftener and at such times and places as it may deem necessary. A majority of said board shall at all times constitute a quorum, and the proceedings thereof shall at all reasonable times be open to public inspection.

SEC. 4. Within six months from the time that this act takes effect, it shall be the duty of every person who is now engaged in the practice of dentistry in this State, to cause his or her name and residence, or place of business, to be registered with said board of examiners, who shall keep a book for that purpose. The statement of every such person shall be verified under oath, before a notary public or justice of the

peace, in such manner as may be prescribed by the board of examiners.

Every person who shall so register with said board as a practitioner of dentistry may continue to practice the same as such, without incurring any of the liabilities or penalties provided in this act, and shall pay to the board of examiners for such registration a fee of one dollar.

It shall be the duty of the board of examiners to forward to the county clerk of each county in the State a certified list of the names of all persons residing in his county who have registered in accordance with the provisions of this act, and it shall be the duty of all county clerks to register such names in a book to be kept for that purpose.

SEC. 5. Any and all persons who shall so desire may appear before said board at any of its regular meetings and be examined with reference to their knowledge and skill in dental surgery, and if the examination of any such person or persons shall prove satisfactory to said board, the board of examiners shall issue to such persons as they shall find to possess the requisite qualifications a certificate to that effect in accordance with the provisions of this act. Said board shall also endorse as satisfactory diplomas from any reputable dental college when satisfied of the character of such institution, upon the holder furnishing evidence satisfactory to the board, of his or her right to the same. All certificates issued by said board shall be signed by its officers; and such certificate shall be prima facie evidence of the right of the holder to practice dentistry in the State of ———.

SEC. 6. Any person who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction may be fined not less than fifty dollars, nor more than two hundred dollars, or confined six months in the county jail, for each and every offence. All fines recovered under this act shall be paid into the common school fund of the county in which such conviction takes place.

SEC. 7. In order to provide the means for carrying out and maintaining the provisions of this act, the said board of examiners may charge each person applying to or appearing before them for examination for a certificate of qualification, a fee of ten dollars, which fee shall in no case be returned, and out of the funds coming into the possession of the board from the fees so charged, the members of said board may receive as compensation the sum of five dollars for each day actually engaged in the duties of their office, and all legitimate and necessary expenses incurred in attending the meetings of said board. Said expenses shall be paid from the fees and penalties received by the board under the provisions of this act. And no part of the salary or other expenses of the board shall ever be paid out of the State treasury. All moneys received in excess of said per diem allowance and other expenses above provided for, shall be held by the secretary of said board

as a special fund for meeting the expenses of said board and carrying out the provisions of this act, he giving such bond as the board shall from time to time direct. And said board shall make an annual report of its proceedings to the Governor, by the fifteenth of December of each year, together with an account of all moneys received and disbursed by them pursuant to this act.

SEC. 8. Any person who shall receive a certificate from said board to practice dentistry shall cause his or her certificate to be registered with the county clerk of any county or counties in which such person may desire to engage in the practice of dentistry, and the county clerks of the several counties in this State shall charge for registering such certificate a fee of twenty-five cents for each registration.

Any failure, neglect, or refusal on the part of any person holding such certificate to register the same with the county clerk as above directed, for a period of six months, shall work a forfeiture of the certificate, and no certificate, when once forfeited, shall be restored, except upon the payment to the said Board of Examiners of the sum of twenty-five dollars as a penalty for such neglect, failure, or refusal.

SEC. 9. Any person who shall knowingly and falsely claim or pretend to have or hold a certificate of license, diploma, or degree granted by any society, organized under and pursuant to the provisions of this act, or who shall falsely and with intent to deceive the public, claim or pretend to be a graduate from any incorporated dental college, not being such graduate, shall be deemed guilty of a misdemeanor, and shall be liable to the same penalty as provided in section 6.

How to Loosen a Tight Screw.—The *Builder* says: "One of the most simple and readiest methods for loosening a rusted screw is to apply heat to the head of the screw. A small bar or rod of iron, flat at the end, if reddened in the fire and applied for a couple or three minutes to the head of the rusted screw, renders its withdrawal as easy by the screw-driver as if it was only a recently inserted screw. As there is a kitchen poker in every house, that instrument, if heated at its extremity and applied for a few minutes to the head of the screw or screws, will do the work of loosening, and an ordinary screw-driver will do the rest, without causing the least damage, trouble or vexation of spirit. In all work above the common kind, where it is necessary to use screws, and particularly in hinge work and mountings, fancy fastenings and appliances affixed to joinery or furniture work, we would advise the oiling of screws or the dipping their points in grease before driving them. This will render them more easy to drive and also to withdraw, and it will undoubtedly retard for a longer time the action of rusting."

THE CAUSES OF THE FAILURE OF GOLD AS A FILLING MATERIAL.

BY DR. A. A. BLOUNT, GENEVA, SWITZERLAND.

[Read before the American Dental Society of Europe, at Cologne.]

* * * I shall mention a few of the causes which, in my judgment, produce the greatest number of failures :

1st. *The lack of a proper system in the formation of cavities.*

No preparation of gold can be perfectly adjusted to the walls and borders of a badly formed cavity. The introduction and condensing of gold is a simple and easy operation ; any dentist of ordinary manipulative ability can make a good filling in a properly prepared cavity, while on the other hand, no dentist, however skilful he may be, can make a good filling in an imperfectly prepared one. The system of making retaining pits, so much in vogue, is a dangerous one, no matter where they may be located, as they are insecure and do not always answer the purpose for which they were intended. One who is in the habit of relying upon them for holding the foundation of his filling, is too apt to neglect more important considerations in the formation of the cavity. Aside from the danger of encroaching upon the pulp on the one hand, and drilling through to the gum on the other, the gold is apt to move with every blow of the mallet, perhaps not perceptibly, but sufficiently to destroy the perfection of the filling.

Another frequent cause of failure is: *using heavy foil where it should not be used, i. e., within the body of the filling and against the walls and borders.* No doubt many of us have seen teeth filled with No. 120, and even heavier rolled gold, driven into small cavities in incisors and bicuspsids with a mallet weighing from eight to ten ounces, while the operator cries out to his assistant, with every stroke of the mallet, "harder! harder!!"

It would be just as consistent to place the patient's head under a "drop," put a solid piece of gold over the cavity, let the drop come down, and thus fill the tooth at one blow.

Extra cohesive gold in too large pieces, either in cylinders or pellets—crowded into the cavity without any system—with the one idea of filling up fast.

Imperfect adaptation of the gold to the walls of the cavity. The heavy and cohesive foil becoming hard by manipulation, folds upon itself, leaving pits through which the buccal fluids penetrate, often to the very bottom of the cavity, and in a short time a dark line becomes apparent, and disintegration and decay of the enamel and dentine follow.

Injudicious use of the mallet, is also one of the causes of our failures ; too much and too hard malleting with serrated instruments, especially over the center of large fillings, causes the gold to draw away from the borders, no matter how carefully it might have been adjusted in the beginning. Decay, as a matter of course, supervenes.

The lack of proper instruments to condense the gold against the borders. However carefully a serrated instrument may be used, it will more or less mar the borders of the cavity. The sharp serrations coming in contact with the edges of enamel, must inevitably leave their mark, and into these little pits the hard or heavy gold cannot be forced. In the process of finishing, small particles of gold fill up these pits, hiding from the operator the imperfections, and he is surprised to see the filling in a short time present such early signs of failure.

If a careful preparation of cavities and a judicious selection of various preparations of gold, with intelligent and skilful manipulation of that which in our judgment is best suited for each individual cavity can in any degree serve to lessen our failures, we should leave no method untried to make our operations more perfect. In my judgment, in order to correct some of the failures mentioned above, we should adopt some systematic method of preparing cavities and of introducing and condensing the gold, follow up that system persistently until we become so expert in it that filling teeth shall be a work of pleasure rather than of labor.

PHENOL SODIQUE AND TANNIC ACID IN HEMORRHAGE.

BY JOHN S. SMITH, D.D.S., OF LANCASTER, PA.

In October last, a lady aged about 23 years had several upper teeth removed. The bleeding seemed not excessive, and the patient was dismissed as usual. The operation was performed about 9 o'clock, A. M., and the bleeding continued, without intermission, until the evening of the same day, when I was summoned to see her. I found the patient nervous and pale, extremities cold, and pulse a little above normal. We took from the cavity the half coagulated clot and washed the parts. Phenol sodique on cotton, with tannic acid, was then pressed firmly, but gently, to the bottom of the cavity. The patient becoming faint, she was placed upon a lounge and stimulants administered. The operation was finished by packing the alveoli with cotton and sandarac varnish. Ice was ordered internally, and the recumbent position maintained. The hemorrhage ceased entirely within twenty minutes, and did not recur.

[The main thing in these cases of hemorrhage is pressure upon the part. Thoroughly packing the cavity, as in the above case, was the main cause of cure. Undoubtedly the phenol sodique and tannin assisted greatly. We have generally relied on them.—ED.]

The art of supplying dentists with valuable professional subjects at almost a nominal price, is one of the mysteries solved by your *ITEMS OF INTEREST*.

T. H. BURRAS, M.D., M.D.S., 564 Lexington Ave., N. Y.

EDUCATION OF MOTHERS.

BY MRS. M. W. J.

The reception of the July number of your *Journal*, which you so kindly sent me, has afforded me great satisfaction, as I find that, although its pages are crowded with so much that must be of far greater interest to the gentlemen of your profession than anything I could say, you nevertheless made room for what I rather jestingly wrote you concerning what ladies expect from their dentists. Having met with so favorable a reception, however, I again venture to address you on another branch of the same subject, for it strikes me now that I omitted one very important thing that ladies, or perhaps I should say *mothers*, expect, but which they too seldom receive, namely, advice and instruction from their dentist as to the care of their own or their children's teeth.

If a child has the toothache, it is taken to the dentist and the tooth is at once extracted, if the consent of the little one can be gained; if the case be otherwise, perhaps some trifling application is made, which temporarily allays the pain until a renewed attack of suffering, with sleepless nights for all in the house, renders imperative another visit to the dentist, when the tooth is extracted, *nolens volens*, and they go their way rejoicing in the probable exemption from suffering for awhile at least, or until the next tooth aches.

There is a "a little black spot" on one, perhaps, but that does not amount to anything. The dentist saw it, of course, but, for fear perhaps of seeming to "ask for a job," said nothing. "It is not for me to propose to do their work; they must come to me for my services; I cannot offer them;"—and in a few weeks the child is brought back to have another tooth extracted. "It did not seem to be much decayed, doctor, but she was *cracking nuts* and the tooth just crushed all to pieces, and she has had a *jumping toothache* ever since!" Naturally enough, as the nerve is exposed, and a piece of the nut-shell still lying on it.

So another tooth is extracted. The upper front teeth are seen to be disfigured with dark stains; the lower ones are covered with tartar; the jaw teeth are imbedded in the foul, decaying remains of many previous meals, but no advice being asked, none is offered. The mother probably supposes that as these are "only baby teeth," which must eventually all be shed, no care of them is necessary, and the sooner they are all extracted and out of the way, the sooner will the child be freed from a necessary evil.

It is not my place to say anything here of the possible evil results of this premature extraction of the child's teeth; of the crowded, irregular, and consequently early decaying permanent teeth; or of the possi-

ble indigestions and dyspepsia from want of proper mastication, if the jaw teeth are sacrificed; but that much of this terrible suffering, this loss of food and sleep, this *martyrdom of our babes* can be, and ought to be prevented, is an undoubted fact.

No child should be allowed to have a decayed tooth (sufficiently so to ache), and no mother should be allowed to remain in ignorance of the means by which this result can in a majority of cases be secured.

This perhaps appears rather strong language for me to use, but when I feel strongly I must speak strongly.

Naturally anxious for the best welfare of her child, physically as well as mentally and morally, well-meant advice, kindly proffered, couched in proper terms, coming from a competent source, will never be rejected by any sensible mother.

Of course, it will not do to state in plain terms the unpalatable truth: "The foul condition of your child's mouth, and its consequent suffering and misery, are the results of your own gross ignorance and criminal neglect."

The dentist, if a true gentleman, which every dentist should be, can readily convey this truth home to the mother's heart in language kind and sympathetic, and so impress it that his advice will be gratefully received and his instructions carefully followed.

Let him so win her confidence, that she will look upon him in the same light that she does her old family physician who presides at the birth of every child, and as she consults him in regard to her own health and that of her children, so will she learn to consult her dentist as to the formation, growth and care of their teeth.

If proper advice were given every prospective mother regarding the care of herself, especially in regard to furnishing abundance of proper nutrient elements, "bone and tooth food," from the very hour of conception, children would be born with the tooth germs so well nourished during foetal life that they would erupt at the proper time with little or no disturbance, and they would be of such fine structure that but little care beyond strict cleanliness and proper diet would be required to keep them sound and perfect.

To attain this most desirable end, however, mothers must be taught how much depends on their own efforts, rightly guided by the wise instructions of those made competent to guide and instruct by a lifetime of research and study.

The mechanical skill to patch up defects, or the artistic perception necessary to adapt artificial substitutes are all very well in their places, but how much nobler work, how far grander a boon to humanity is the ability to prevent these evils!

Teach mothers that the teeth are not formed, as so many evidently suppose, during the few weeks or months preceding eruption, when the

gums are swollen, and the child cross and peevish, but that they date their existence almost from the very beginning of foetal life; that as early as the sixth or seventh week after conception the germs of the teeth are forming in the dental groove—soft and pulpy, it is true, until about the fourth month, when calcification begins, the whole tooth being thoroughly solidified and the enamel formed before it makes its appearance in the baby's mouth, except that the root continues to elongate.

As the teeth can only be formed from tooth material, and as this is required from the very earliest beginning of the germ formation, teach the mother that she alone can and must supply this material. If she does not furnish it, designedly or otherwise, in sufficient quantity over and above the amount requisite for her own use, it will be subtracted from her own osseous tissues, and she will suffer correspondingly, not alone in her teeth and bones, under very insufficient regime even the brain will become enfeebled from lack of phosphoric acid, the muscles pale and flabby, and the poor mother absolutely famish for lack of the necessary elements of nutrition, even while apparently enjoying the most luxurious diet.

Teach the mother what this tooth making material is, and where she is to find the necessary elements. Teach her that she must not only have *proper* food, and sufficient *food*, but that her system must be kept in condition to digest and assimilate this food. Teach her the importance of physical exercise, of fresh air and sunlight, and of cleanliness, as indispensable adjuncts to diet.

Teach her that these principles must be applied and these precepts acted upon, not only through the nine months of *gestation*, while she supplies all the elements of nutrition through her blood, but also during the whole period of *lactation*, when her milk is not only the sole magazine of lime-salts for the further development of the teeth and bones, but the only source of nutriment for the whole body of the rapidly growing child.

If, after weaning, she will habituate her child to plain, wholesome food—and by this time you will have taught her what this means—with scrupulous cleanliness and abundant exercise for the organs of mastication, provide it with comfortable, easy dress, and enforce strict obedience to the laws of health, what a splendid race of men and women would we see in the next generation.

In the words of Dr. Welcheus, "Good, substantial food, containing all the elements necessary to build up and nourish the various tissues of the body—clean, warm clothing to protect the surface, and regular out-door exercise, all with temperance and moderation, will not only raise the child well, but, in a large majority of cases, *raise a denture* well calculated to withstand the changes of life, and endure the wear

and tear of mastication." Mothers and children would thus attain a higher standard of physical development, for these benefits could not accrue solely to the *teeth*. "A knowledge and observance of nature's laws must result in an improvement of the whole being—body, mind and heart."

And not only this, but you would also have the proud satisfaction of feeling that you had done your share toward raising the dental profession to a higher standard of physiological science.—*Southern Dental Journal*.

"HOW IS THIS FOR HIGH?"

EXTRACTS OF THE OPINION OF CHARLES L. STEEL, M.D., D.D.S., ON
DENTAL EDUCATION.

What is a dental education? Of course, that must be acquired all during one's life, but to start with, I contend that a *well* educated dentist should possess the knowledge supposed to be comprehended in the titles A.M., M.D. and D.D.S. Many I know will laugh at this and call it high-flown, but I *believe* in putting our standard high, and then if we strive faithfully to reach that, we will be so much the better off, even though we do not reach the goal itself.

And when I lay this down as the standard for a thoroughly educated dentist, I do not mean the simple *possession* of those degrees, when their owners have only a mere superficial smattering, which a favorable fortune has enabled them to accidentally obtain by a process technically known as "cramming," but I do mean the *intelligible* possession of such a liberal education as one will inevitably secure by a studious attention to the courses of lectures in a good literary, a good medical, and a good dental college.

And I would further suggest that these colleges be attended in the order named, for let our A.M. go to a medical college and his knowledge of Latin and Greek will save him much time and wear and tear of his dictionary, while his knowledge of chemistry will make the medical course on that subject a mere sinecure to him. Let our M.D. go to a dental college, and who will say that he has not a better opportunity to become a good practical dentist by being able to devote almost his entire time to the chairs more intimately connected with dentistry?

Our student should be conversant with the modern languages, particularly French and German, in order that he may keep posted in the current literature of these nations. We know the Germans to be deep thinkers, the French to be earnest experimenters, and the Americans to be intensely practical. Let us Americans fit ourselves to apply the results of German thought and French experiment.

Doubtless some will say that many young men, entering our profes-

sion, have neither time nor money to take this curriculum. I would be the last man in the world to discourage any one from entering our ranks, but I do believe that most men can find the opportunities to get the education which I have suggested. They may not graduate at twenty-one, twenty-two, or even twenty-five years of age, but they can at thirty or thirty-five, and they would far better go through on the slow-moving and oft-stopping accommodation train and know something of the road over which they have traveled, than to rush through on the lightning express and retain a mere dim, confused idea that certain fields have been passed by.

But the chief means to which we must look for aid in this matter are the colleges; and now I am going to say some things about colleges, and if I step on anybody's corns, why—I am sorry that they have corns. In the first place, I think that many of our colleges have a false idea of what constitutes success. They publish a long list of students and get the journals to call attention to what a large number of graduates they have turned out, as though to say: "Since we are so largely patronized, why we must have a fine school." Now I wish it to be distinctly understood that I say this *may* be a proper inference, but then it *may not* be, for we all know that many men, and, alas, not always the minority, go to dental colleges to procure a diploma, simply to use as a license, whereby they may make a living out of dentistry, and do not go for the purpose of gaining a thorough and comprehensive training with which they may honor their chosen profession. Such men as these will *always* select schools where they can get what they want easiest and *cheapest*. So as, each summer, catalogue after catalogue of our colleges come in, let us not concern ourselves with the list of graduates in the back portion, but let us peruse those pages of these oft-times works of fiction, which tell us what each school requires and what it is prepared to do for such men as may intrust themselves to its care. Let us not stop even here, but let us watch the course of the students which they graduate and see what evidence *they* give of proper training.

If possible, upon leaving college get with some older dentist, who can aid you in putting your theory into practice, and by whose experience you may profit.

[Thirty or thirty-five years of age when he leaves his college course, and *then* is ready to enter his pupilage under an experienced dentist to reduce theory to practice! The sage instructor forgets to tell us at what age his student will be ready to get married and settle down to business for himself. We wonder if our literary, medical, dental professor, is prescribing the medicine he took himself.—Ed.]

The receipt that I would give for good teeth is: Abundant fresh air, physical exercise, plain food of such a character as to require thorough mastication, and water as a beverage.—*Dr. R. Finley Hunt.*

DENTISTS' MUTUAL BENEFIT ASSOCIATION.

For several months past the *Journal* has been trying to impress upon the members of the dental profession the feasibility of organizing among themselves a mutual aid association, so that in the event of the untimely death of any of its members, their families would be placed beyond the pale of immediate want, and not be subjected to such unkind allusions as were made by a member of the profession regarding the Marshal H. Webb fund. We are happy to say that our suggestion has not been unheeded. At a meeting of the members of the Missouri State Dental Association, held at Sweet Springs, Mo., July 12th, the movement was inaugurated, and a committee appointed and empowered to draft a constitution and by-laws, and take such other steps as were necessary for the organization of such an association.

At a call of the committee another meeting was held at Kansas City, Mo., on the 18th of September, the result of which was the formal organization of the Dentists' Mutual Benefit Association. A constitution and by-laws were adopted, and officers elected for the ensuing year. The meeting was quite largely attended by the best men of the profession in Missouri and adjoining States. Letters were read from prominent members of the profession in other States, all wishing the movement God-speed.

The Association starts out with a charter membership of over sixty, and the indications are that it will be able to report a very large increase at its next annual meeting. If properly managed it can but prove a God-send to many. The officers elected are as follows: President, Dr. C. H. Darby, St. Joseph, Mo.; Vice Presidents, Dr. F. Swap, Boonville, Mo., Dr. J. J. R. Patrick, Belleville, Ill., Dr. J. W. Reed, Mexico, Mo., W. H. Eames, St. Louis, Mo., Dr. A. H. Thompson, Topeka, Kas., Mr. F. X. Combs, (with S. S. White) Chicago, Ill.; Secretary and Treasurer, Dr. R. I. Pearson, Kansas City, Mo.; Board of Directors, Dr. S. B. Prevost, Kansas City, Mo., J. A. Price, Weston, G. W. Tindall, Will T. Stark, H. S. Thompson, A. C. Schell, Kansas City, J. D. Patterson, Lawrence, Kas., L. C. Wasson, Ottawa, Kas., J. M. Austin, St. Joseph, Mo., Geo. H. Cushing, Chicago, Ill.—*Missouri Dental Journal*.

Mlle. Dudley, of the Theatre Francais, surely is devoted to her art. She has just had six front teeth drawn, in order that she may lisp in accordance with the requirement of her role in "Les Maucroix." This surpasses the performance of Theophile Gautier, who, after having an aching tooth drawn, said to the dentist: "Now, lest the others some time ache, you would better pull them out, too. I have had enough toothache for a lifetime." The dentist obeyed, and removed every tooth in the author's mouth.

FAREWELL TO THE BACTERIA SCARE.

It is all very well for scientific persons to make discoveries ; but when a series of discoveries have established a pleasing and satisfactory theory, what are we to think of the man who makes a new and final discovery wholly overthrowing and demolishing that theory? Such has been the conduct of Dr. Gregg, of Buffalo, and the general opinion of medical theorists is, that he ought to be ashamed of himself.

The theory that certain diseases are caused by the presence of bacteria in the human system was, until Dr. Gregg made his experiments, accepted by a great many learned men. The bacteria in question were alleged to be microscopic animals of various species, some of which produced consumption when admitted to the human body, while others gave their attention to the production of malarial fevers and hydrophobia. They were found in the blood, the saliva, and even the tissues of victims of these diseases, and it was therefore evident that they were the cause of disease—just as it is evident that a bullet found in the brain of a murdered man was the cause of his death.

But now comes Dr. Gregg with the painful assertion that bacteria are always present in the blood of everybody. No matter whether the individual is healthy or diseased, or whether the blood taken from him is examined while it is fresh or after it has become decomposed, the microscope will always show that the blood contains bacteria. This, of course, utterly upsets the theory that bacteria produce disease, and destroys the value of an enormous quantity of medical literature written in defense of that theory.

This, however, is not all that Dr. Gregg has done. He has shown that the so-called bacteria are not animals, but simply particles of fibrine. After the laborious and apparently successful experiments which Pasteur and others have made in breeding and cultivating bacteria, it is indeed unkind to demonstrate that bacteria are not alive and are simply inert particles of matter. The admirers of bacteria now find that they have been as grossly deceived as are the Long Island hounds who pursue an alleged fox, only to find that it is a harmless anise-seed bag.

We shall now have to throw away all theories founded on the idea that bacteria are alive, and to frame new theories of the origin of disease. This will shake our faith in medical men, and, to a certain extent, in all theories. Dr. Gregg may think he has acted like a good and wise man, but it is impossible to regard him as other than a meddlesome and unnecessary iconoclast.—*N. Y. Times*.

To prevent silver from tarnishing, the *Furniture Gazette* recommends painting it with a solution of collodion in alcohol. This is to be applied with a soft brush, and may be washed off with hot water.

Editorial.

SOME ITEMS OF INTEREST IN PHYSIOLOGY.

NUMBER III.

THE BONES

Are the frame-work of the body, and its hardest portion. To these the muscles are attached to give to the body its form, variableness and motions. The bones are composed of animal and earthy materials, and are the hardest portions of the body. They greatly vary in structure, density, shape and uses. The teeth are generally classed as a part of the bony system; though we shall see, by-and-by, that they are of different origin and growth. As hard as are the teeth, there is one small bone in each ear that is still harder. It is the animal tissue of the bones which gives them form, and comprises their frame-work; the earthy material, principally phosphate of lime, imparts solidity and strength, by filling up their many interstices, or cells, and so cementing the whole structure as to leave scarcely a trace of the animal cellular network it has filled and consolidated. The hardest part of the bone is its outer plating. Underneath this it is, to a variable extent, of a honeycomb structure. On the surface of the outer plate is a thin membrane for the attachment of the muscles. Throughout the center of the long bones there is a column of matter called *marrow*. This gives the bone moisture and nourishment. Upon the ends of these long bones are bulbous protuberances, or balls, for their articulation with other bones. These protuberances are mostly composed of a peculiarly elastic substance called *cartilage*. This is somewhat similar in construction and substance to the bone, minus most of the earthy material, though of such columnar arrangement, and so delicately yielding to pressure, that it is peculiarly adapted to resist the sudden concussion incident to jumping, falling, etc. It also tips the ribs, forms a cushion for the vertebræ of the spinal column and covers the surface of other bones wherever the ends of the long bones come in contact for a joint. In early life this cartilage constitutes many parts which afterward become bone.

If a bone is burned this animal portion is consumed, and there is left the earthy, white, chalky, brittle substance which we said produced its solidity and strength; and yet, when deprived of the animal ingredient by the above process, though the form of the bone remains, its strength and firmness are gone. If a bone is placed in acid, the mineral or earthy ingredient is dissolved out, leaving the animal portion,

which thus becomes so soft and simple that if one of the long bones is selected, it may be tied into a knot.

The bones are of different shape, size and density, to adapt them to their various uses and situations, and are so constructed as to produce the greatest strength and convenience with the least amount of material.

The spinal column is a marvelous contrivance. Through the whole column of spines is a central cavity, forming a long canal through its entire length. In this is found the *spinal cord*, made up of very many nerves coming from the brain and extending to every part of the body. The elasticity of the spinal column is produced mainly by the soft, spongy, spiral cushions of the column. This is cartilage, found on both the upper and under side of each spine. These spines are not placed exactly over each other, but are so arranged as to give three graceful curves to the column. This form also gives increased mobility, and less shock, in the act of jumping, etc. The nerves branching off from it to the various parts of the body, are transmitted through small lateral openings at each spine of the column.

The pelvis is the seat of the spinal column. It is also that upon which the abdominal organs rest. It is composed of a large basin-shaped bone well calculated for this purpose, and to give it attachment to the many large, strong muscles depending on it for support in their motions.

The two thigh bones, (one for each leg) called the femors, support the pelvis. They are the longest and the strongest bones of the body. *The ball and socket joints*, with which each is connected with the pelvis, is a wonderful mechanism, allowing a number and variety of motions, surpassed only by similar contrivances at the shoulders. The two thigh bones rest upon *the tibia and fibula*. These are the two bones in each leg below the knee. The tibia is the main bone, the fibula being quite small and slender, situated behind the tibia. It is sometimes called the splint bone. The presence of this movable 'bone for the attachment and insertion of many muscles, allows many more motions to the lower part of the leg than would be possible were the tibia the only bone.

The humerus—the upper bone of the arm—is somewhat like the femur of the leg. Its articulation with the body is similar to that of the femur with the pelvis. There is this important difference—that, instead of its being joined to a fixed bone, as is the femur to the pelvis, the humerus has an intervening movable bone, called the *scapula*. This is of large size, used to give attachment to many muscles, thus giving to the humerus remarkable mobility. The freedom and variety of the motions of the upper arm in conjunction with the wonderful arrangements of the bones and muscles of the forearm, wrist and hand, has much to do with man's superior dexterity.

The two bones of the forearm are *the ulna* and *the radius*. These are somewhat similar in shape and size, being slender their entire length, with quite a protuberance at *one* end. In the *ulna* this enlargement is at the elbow, and is there used as a socket for the humerus. The other end is only slightly enlarged for the convenience of the bones of the wrist. The radius has no articulation with the humerus. It is left entirely free at this, the upper end, so that it may radiate or move laterally with great freedom. It is to this bone, at the upper part, that is attached the strong muscle which brings the hand to the shoulder. The lower end of the radius is enlarged for the articulation of the bones of the wrist.

The wrist, between the bones of the forearm and the hand, is composed of eight bones. These, with their muscles attached, give great variety to the motions of the hand; and by acting as attachments for the tendons, impart to the hand much strength and skill.

The five metacarpal bones of the hand are attached, by a large number of muscles and tendons, to the eight bones of the wrist, and to the fourteen bones of the thumb and fingers.

The bones of the feet are somewhat similar to those of the hands. The arch of the foot, and the peculiar arrangement of the bones, together with the columns of elastic cartilage on the joints, give marvelous "spring" to the feet.

The skull is the large, strong, bony casement for the brain. It is composed of several pieces, most wonderfully united by the sutures, or saw-shaped edges. Attached to it are the strong bones, and the nasal and the cheek bones.

Joints have been provided wherever parts of the skeleton require motion. They vary in kind; the chief being the ball and socket already described. There is also the hinge joint, as of the knees and elbows, and the flat joints found in various parts of the body.

Ammonia is one of the most useful of articles for household use. A bottle of strong spirits of hartshorn, tightly corked, should be kept in every house. A teaspoonful in half a cup of water will cleanse combs and brushes. Fabrics discolored by acids may usually be restored by applying ammonia. A tablespoonful to a quart of warm suds will remove almost any stain from carpets, and in cleaning paint, glass, silver or gold it is invaluable, as well as for keeping the hands soft and white. For cleaning windows, put a teaspoonful of strong ammonia in a half pint of clear, warm water; wet a cloth in it and rub sash and glass; then rub dry with cloth or old paper. Stains, pencil marks, fly specks and all manner of dirt disappear under ammonia treatment, with no injury to paint or varnish, if not used too strong, and it is a great saving of soap in washing either the skin or the clothes.

THE PROGRESS OF CALCIFICATION.

How does the oyster shell grow? And how does the gelatinous tooth germ become hard? Interesting questions. The answers will give us the two modes of calcification. The oyster throws out a gelatinous substance strongly impregnated with lime-salts, which becomes its stony covering, while the embryo tooth becomes itself impregnated with the lime.

By this union of the animal and earthy substance, the very character of both lime and slime is changed. How is this? How does the inorganic, insoluble, intractable lime come to be essentially modified by the almost neutral gelatine? and the latter by the former? For, in fact, we find that in the presence of gelatine, albumen and many other organic substances, both the form and the physical character of the lime are materially changed into many curious but definite forms quite unlike the original earth. And the animal matter is so transformed by association with the lime as scarcely to be recognizable by the most careful examination. In both forms of calcification—excretion, as in the shell, and infiltration, as in the tooth—it is no longer a slime, neutral, easily dissolved substance. It becomes exceedingly hard, resisting acids, alkalies and boiling water. Perhaps some one can explain the philosophy of the process; we cannot.

Then again, the two processes of increase in size are quite as singular. The tooth, unlike any other body in nature, when born, takes its place as large as it ever will be. Is it not interesting to see it forcing its way up through bone and gum, taking its place in the grand arch of the mouth, without apparent infancy, childhood or growth—a man, ready to do a man's work?

But the oyster shell; how is it with that? The infant oyster needs but little space, and has but little; but that little is environed by a hard shell. As the little prisoner grows, how grows the shell? We say it is by excretion. But what is the mysterious process of this excretion? What is the power by which the oyster takes in the lime it excretes? Where is the vital laboratory by which this incoherent, friable, inorganic substance is transformed into this exceedingly hard, strong, unyielding, impenetrable shell? And still more mysteriously, how can this soft, pulpy, almost unorganized jelly-like oyster, force out its wall of stone and increase the size of its house? You say it is by adding layers to the inside of the wall. But does this *explain* it? Should not this decrease its size as with the pulp walls of the tooth? Besides, where is that polished, close-grained portion that *was* its inner surface? Watch its progress outward and mark its changes. What is it that pushes its substance outward, changes its character, and finally produces such a wonderful transformation as we see between that which *was* within to that which *is* without?

THE INTELLECTUAL DISCIPLINE OF WORK.

To make a good theory valuable it must be put into practice, and yet to make work profitable, it must have behind it a well-devised theory. Accurate, matured, strong conceptions, marshalled into a well-disciplined command, must be the intellectual force directing the details of physical activity, shaping every part and harmonizing and concentrating the whole into order, oneness and power. The inevitable effect of skilled labor is to create this intellectual force. From the earliest days of childhood to the maturity of old age, intelligence and labor must go hand in hand to produce a force worthy of our being. To divorce them is to ruin both. Books will store the memory, but the necessities of life must apply them successfully; schools will cultivate the mind, but work must crystallize ideas into facts; vigorous thinking will give us good theories, but the use of the muscles must give us skill. There are too many walking books that are only in their element when they are on stilts, and there are still more groveling workmen crawling in the dirt incapable of looking above or beyond their immediate necessities. There are philosophers, mathematicians and linguists without brawn and harmony of characters. Their education is an overburdened memory, with a few facilities so strained as to unbalance the mind, prejudice the judgment, dwarf the passions and unfit them for the common duties and pleasures of life; and there are farmers, mechanics and merchants without culture and such broad views of their business and of the world which alone can give success in the highest import of that word. To make even the best thoughts grow they must be moistened with the sweat upon the brow, and to make even honest work profitable it must be mixed with brains.

But the special thought we took our pen to bring out is, the discipline work requiring skill has upon the intellect. The first handling of the rattlebox gives the infant's mind discipline, which no mere teaching will accomplish. The use of the simplest tools in making a box, a hoop or a kite, disciplines the boy's mind as no mere memorizing can do. The girl who learns to sew a fine hem, to cut a nice dress, or to cook a good meal, is not only developing the skill of the eye and the hand, but the ability to think keenly, to judge accurately, and to plan intelligently. The scholar who, with square and compass, measures his blocks designed for actual use, or planes and scribes the timbers for a real house, or who with his sextant measures his field, or estimates the levels of his road bed, is learning mathematics more clearly, and disciplining his mind more precisely than by years of mere book study. Theory and practice must intermingle, acting and reacting on each other.

Stimulation to do good work arouses the faculties, fires the will and disciplines the whole being. Successful and profitable work, requiring

plan, order and precision of detail, gives training to the mental powers and scope and maturity to the understanding.

We call the occupation of the dentist professional. This is only another name for intellectual labor—the man of skill behind his instruments. All labor which thus calls forth the matured powers of the whole man is professional, and this is what we mean by *the intellectual discipline of work*. Accuracy of manipulation requires both brain force and delicacy of physical application, precision of judgment and practical skill. In as far as we can elevate all labor to this intellectual plain, and thus make the employment of the hands the discipline of the head, and the activity of both the strength of the whole being, we distinguish man's intellectual work from the labor of the brute.

ACTIONS AND THEIR MOTIVE.

It is not the *acts* of our lives that we should seek primarily to control, but the *disposition* of which these acts are the exposition. The civil law deals with acts because it sees only that which is without; the moral law with motives, because its vision penetrates to the very source from which actions derive their character. In mastering ourselves, therefore, or in seeking to reform or lead others, what we must aim at, above all things else, is the purification and control of the heart. To this the outward deportment will speedily conform.

As we are all liable to err, an act may not be as good as the motive. We therefore often misjudge a person by estimating him by what he does, because we misinterpret the motive. Our acts and the rumors and opinions of others with respect to us constitute our reputation; motives and the disposition of the mind and heart constitute our character.

Celluloid to be Superseded.—According to a statement in a scientific exchange, a new substance has been prepared for the purpose of superseding celluloid. The new material possesses all the hardness and brilliancy of the celluloid, and has the advantage of being fire-proof. A solution is prepared of 205 parts of caseine in 50 parts of ammonia and 400 of water. To this the following are added: Quick lime, 240 parts; acetate of alumina, 150 parts; alum, 50 parts; sulphate of lime, 1200 parts; oil, 100 parts—the oil to be mixed in the last. When the mixture has been well kneaded together and made into a smooth paste it is passed through rollers to form plates of the desired shape. These are dried and pressed into metallic molds previously heated, or they may be reduced to a very fine powder, which is introduced into the heated molds and submitted to a strong pressure. The objects are afterward dipped into the following bath: Water, 100 parts; white glue, 6 parts; phosphoric acid, 10 parts. They are then dried, polished and varnished with shellac.

INCLUDE YOUR WIFE.

It is very well to say, "I and my wife are one" (though perhaps it would be more modest to say "wife and I are one," but never mind this, if the first is not intended to be significant). Really, do you mean that your and her rights are one? And the results of your and her work are one? And that you are mutual in your interests? If you have a partner at the office you share profits equally, though each may do different work. Is it so with your partner at the house? Yet perhaps she works as hard in her department of labor as you do in yours. Few of us would exchange our work for that of our wives. Have we vexations? So has she. Does ours produce nervous exhaustion? Her's more. Is ours confining? How much more hers! Do we sometimes complain of too many hours of work? Count hers. Does our employment require skill? The ingenuity she must display to fill well all her spheres, of wife, and mother, and servant, and especially of caterer to her often fastidious husband, is simply a marvel.

And yet, does she want five dollars to pay the grocer? "Dear me, what an expense this table is!" Would she replenish her wardrobe? or do the children need new clothes? "Why, Jane Ann, you are always wanting something! Where do you suppose all the money is coming from?" Would she have an extra feather on her hat or a more costly lace for her neck? "Actually, my wife spends half as much for finery as I do for tobacco and beer!"

There are wives who are imprudent in spending money;—no husbands, I suppose, who are spendthrifts? There are some wives who put by but little money, even if they have a superabundance;—men, perhaps, are strangers to such a weakness?

It is a fine thing to feel that "wife and I are one." Of course, not one in every trait of either excellence or weakness, but so completely one in interest and welfare, happiness and responsibility, weal and woe, that the purse shall be one also. Sometimes the husband is the more able to economize and more prudent in spending, and sometimes this trait predominates in the wife. But at all times a mutual understanding and a conservative policy will soon convince each of the other's strong points; and a yielding to superior wisdom, grace or ability will equalize things. If there is affection, we shall soon feel that "wife and I are one," and then, in all our interests, plans and pleasures, we can include our "better half."

It has been finally demonstrated that there is no nutrition in starch, only combustible matter to keep up the heat of the body, and that the surplus fat on people is a sort of wood pile or coal bin, in which starch and other carbons are stored up in view of a cold day and the wear and tear of activity.

Miscellaneous.

ITEMS IN CHEMISTRY.

BY H. E. ROSCOE.

CARBON.

This is a solid element; we know it in the free state as charcoal, coke or coal. Carbon also exists free as two other quite different sorts of bodies, viz.: the colorless hard gem called diamond, and the soft body used for making pencils, called black lead or graphite. How can we show that three such different substances as these are chemically the same element? Suppose we were to burn a bit of charcoal in oxygen gas, we get carbonic acid gas formed; if we burn a bit of graphite, we also get carbonic acid gas formed; and if, instead, we take a bit of diamond and burn it, we also find that carbonic acid gas is formed. From this we conclude that each of these three things—charcoal, graphite and diamond—contains carbon. But do they contain anything else besides carbon? No, because if we take the same weight of each—12 grains of charcoal, 12 grains of graphite, and 12 grains of diamond—and burn them separately, we find that we get exactly the same weight of carbonic acid, viz., 44 grains, in each case. So that, although they look to be such very different substances—the precious gem and common coal—yet they are identically the same chemical element, carbon.

CHLORINE

is an element very different in its properties from any of those we have mentioned. It is a yellowish gas, possessing a very strong smell, and if breathed acts as a poison. Chlorine is not found in the free state in nature, but we can get it from a useful compound which contains it—viz., common salt. This body, which we use to flavor our food, and which gives the saltiness to sea water, is made up of chlorine and metal sodium, and common salt is therefore called chloride of sodium, or sodium chloride.

We can get chlorine from common salt by mixing a little salt with a little powdered black manganese oxide, putting the mixture into a flask, and pouring on to the mixture some sulphuric acid diluted with the same quantity of water. By adapting a bent tube and slightly heating the flask, a heavy yellow, very strongly smelling gas is given off, and may be collected in the dry bottle.

This is chlorine gas; care must be taken not to breathe it, as it

causes coughing and inflammation of the throat. This gas combines at once with metals to form chlorides; if we throw a little powdered metallic antimony into the bottle containing the chlorine gas, we see sparks of fire, and a white cloud of antimony chloride is formed. Thus we learn that substances can burn not only in oxygen, but also in chlorine gas, and that heat is given out whenever chemical combination occurs.

Chlorine also has a strong bleaching power, and it is largely used for taking the color out of cotton and linen cloth. This you can easily experiment by throwing in a bit of wet colored cotton rag into a bottle of the yellow gas—after a few minutes' shaking the rag will have lost its color.

If we mix a little bleaching powder, which contains chlorine, with water, and put a piece of colored cotton rag into it, the color will not be discharged; but if we then dip the rag into water containing a little sulphuric acid, the dye will begin to disappear; and if we repeat this once or twice, the rag will become white. This is the plan used by bleachers. The acid sets free the chlorine from the bleaching liquor, and this takes away the color by destroying it.

SULPHUR.

If we heat a little bit of sulphur in a spoon over a flame, it first melts, then boils, and then takes fire and burns away entirely, giving off a pale blue flame, having the well-known smell of burning sulphur. Gunpowder is a mixture of sulphur, charcoal and niter.

Free sulphur is found in the earth in volcanic districts, and comes chiefly from the island of Sicily. Sulphur is found also in combination chiefly with metals, forming sulphides of the metals. These sulphides are generally the ores of the metals, that is, the substances from which the metals are obtained. Thus the ore of lead, a mineral called galena, is sulphide of lead. Sulphur also combines with oxygen and hydrogen to form sulphuric acid, a very important chemical compound. This acid is a heavy, oily liquid, and is commonly called oil of vitriol, and it is made in enormous quantities (many thousand tons per week) and used for a great number of processes—for making alkali, for soap-making and dyeing, and calico printing and bleaching, and for the preparation of almost every other acid. Sulphuric acid unites with metal to form sulphates—thus we have sodium sulphate, or Glauber salts; iron sulphate, or green vitriol; copper sulphate, or blue vitriol; and many others.

A distinguished botanist has found that by simply soaking the stems of cut flowers in a weak dye solution their colors can be altered at will without the perfume and the freshness being destroyed.

SULPHUR AS A CURATIVE.

WHAT ITS ODOR WILL DO FOR BRONCHIAL AND PULMONARY AFFECTIONS.

"We who are employed in these works," said a clerk in the chemical factory on Flushing avenue, Williamsburg, N. Y., "can corroborate the statements made by the police concerning the good effects of inhaling the fumes of sulphur. I had the catarrh, but am no longer troubled with it. When that workman came here"—pointing to a man at work near by—"he hardly had strength enough to raise a broom, so great had been his suffering from consumption. I understand you cannot find any one in the region who is afflicted with any of the so-called parasitical diseases."

"I have often, on a fine day," said a dweller near the works, "noticed people walking slowly around the works. You can apparently get a stronger odor of the sulphur outside than within the works."

Doorman Grennan, of the Flushing Avenue Police Station, introduced the reporter to a family that had moved into the neighborhood on purpose to test the alleged curative properties of the odor from the works. "I can't account for it," the person benefited said, "but we none of us ever had such good health as we have enjoyed since we came here. They told me that I had the consumption, and I guess I had; but I certainly haven't got it now."

"What do I think of sulphur?" said the engineer in Scholes' sulphur works, Kent avenue, foot of Ross street. "I think it is the best thing in medicine for all affections of the lungs and throat. It is a positive cure for diphtheria, and I do not doubt that it is a cure for catarrh and consumption. For asthma I know it to be most beneficial. For years before I came here to work I was a sufferer from asthma. Shortly after coming here I began to get relief. The mere inhaling of the dust of sulphur as it flew about the place brought relief to me. It has done me much good. Of course, you understand I do not say it will work a positive and radical cure, for I do not think it will. There is now around the corner in Wilson street a family of seven just recovering from diphtheria. When they were stricken down the neighbors who had been longer in the locality prevailed upon them to get some sulphur. They took a lump of it, and, placing it on the hot stove, inhaled the vapor. A person in good health is unable to endure the fumes, and cannot remain in the room. As I understand it the vapors kill the parasites or fungi, and do away with the disease. I never heard of any person employed about such works as these suffering with any of these complaints, or of any one dying of consumption who had been for any time about the place."

Dr. James Fleming, of Fourth street, Williamsburg, said of the curative and beneficial properties of sulphur and sulphurous acid: "In all parasitical diseases it is most powerful. By many consumption is sup-

posed to be a parasitical disease. Where, however, it is not, but is hereditary, sulphur does not effect any lasting benefit. For diphtheria and catarrh I believe it to be a potent remedy and the quickest cure we have. When properly used there is nothing so certain to give relief, nor is there a better preventive."

The phosphate of zinc does not seem to be appreciated yet by some dentists. Where the decay of a tooth has nearly or quite encroached on the pulp, if the cavity is excavated ever so skilfully and delicately, and filled with gold, or even with alloy, the operation is generally a failure; but if oxyphosphate is used, according to directions, the result is almost always a success.

This filling is now so good and durable that it will generally wear very well,—in some mouths for a long time—though it be not covered with metal. Yet it is well to depend on it to mainly fill the cavity, the surface to be plated over with gold, or the gold and platina alloy.

This process is not only safer, as preventing immediate bad results and in healing inflamed pulp, but it better preserves the tooth. The oxyphosphate is so absolutely non-shrinkable, and so tenaciously adheres to the walls of the cavity, that it is our most impervious filling. And it is such a non-conductor that the tooth is not so sensibly affected by thermal changes.

Such a filling is not only better, but much cheaper. A cavity which filled with gold would cost from ten to twenty dollars, can be filled better and more durably, in the above way, for from four to ten dollars. Even as compared with a large alloy filling, the oxyphosphate is so much cheaper that it is economy to fill the body of the cavity with this and finish with the alloy.

The profit to the dentist, if he value his time and energies, is also in favor of the new mode. The old entire gold process is the most tedious and exhaustive of all the operations in dental manipulations.

Then, too, we should take into consideration the comfort of our patients. We have all seen how perfectly exhausted they become during the tedious operations of extensive gold fillings. An intelligent patient would far sooner pay the same price for as good a filling, which could be put in the tooth in one-fourth the time.

PENNSYLVANIA ASSOCIATION OF DENTAL SURGEONS.

At the annual meeting of the Pennsylvania Association of Dental Surgeons, held on the evening of October 9, 1883, the following were elected officers to serve for the ensuing year: E. H. Neall, President; John Hellings, Vice President; Theodore F. Chupein, Recording Secretary, Corresponding Secretary and Reporter; W. H. Trueman, Treasurer and Librarian. THEODORE F. CHUPEIN, Secretary.

NICOTINE POISONING.

FROM THE "BROOKLYN EAGLE."

The death of William P. J. Morris, of this city, at the age of fifteen, from nicotine poisoning, ought to be a warning to the boys who take, as he did, to smoking cigarettes and chewing tobacco. It is true that the boy Morris smoked and chewed to excess, and that when he once began to use tobacco it became an infatuation with him. If he was not smoking a cigarette, the smoke of which he inhaled, he had a quid of tobacco in his mouth, and sometimes he smoked and chewed at the same time. Instead of producing nausea and vomiting, which are common results of the excessive use of tobacco, his whole system was gradually debilitated, so that he became incapable of mental or physical exertion, and was remarked for general apathy, vacuity, and a desire to sleep. He suffered with severe headaches, his countenance became sallow, and he lost all appetite for food. Soon even the sleep he craved deserted him, for insomnia is one of the most general effects of excess in smoking and chewing. His parents attributed his prostration to close confinement in the lawyer's office where he was employed.

Dr. Palmer, not knowing the boy's habit, and, of course, not suspecting one so unnatural and irrational as that of constantly using a powerful narcotic, thought at first he must be suffering from indigestion and innutrition, caused by insufficiency of wholesome food. When informed by the boy's parents of his tobacco infatuation he concluded at once that he was suffering from narcotic poisoning, and another physician whom he called in formed the same conclusion. They did everything that their science could suggest to arrest the death that was overtaking him, but it was all in vain, and the boy died.

We have heard a great deal of late about the sale of liquor to children, and the habits of intoxication which are contracted by boys scarcely entered upon their teens, but we venture to say that for one boy in Brooklyn who is studying for a drunkard by surreptitious drops of gin or whiskey, there are twenty in every street who are committing slow suicide by the use of tobacco. It is no uncommon thing to see an urchin seven or eight years old lighting a cigarette or the stump of a cigar. The effects upon the stomach, the brain, and the whole nervous system are probably far worse than would be caused by occasional intoxication from alcohol. The very sources of vitality and energy are dried up. The hand shakes, the limbs are unsteady, the eyes are dizzy and the head reels, and yet these pigmies who think it manly to smoke and chew continue the habit that is destroying them. If a record could be had of all the early deaths, and, what is far worse, the lunacy, the irresponsible crime, the utter weariness of life and incapacity for life's work, which are engendered in young boys by this in-

haling and absorption of an irritant poison, we think that many parents, teachers, and employers of boys would open their eyes in horror.

The effect of liquor is brief compared with the paralyzing and demoting effects of tobacco. Even the strong man who has been used to it for years finds it necessary to guard against over-indulgence in tobacco more than he does against the glass too much, that would give him a headache in the morning, but would not deprive him of both appetite and sleep. The effect of excess in tobacco—and there is no quantity of it which is not excess, especially for a child—is not only to stop the growth, destroy the will power, and impair all the vital forces, but to dry up the gastric juices, so that the food which is swallowed without taste or relish is not assimilated, and does not nourish the body. If it be a crime before the law to sell a boy of 13 or 15 a glass of liquor, it ought to be equally so to sell him a cigar. This may seem an exaggerated view of this evil, but we believe our Brooklyn physicians can fully bear us out both as to the increasing frequency of the habit among boys and its disastrous effects. It is an evil that not only impairs the health, even if it does not destroy the life of its victims, but if it became universal it would destroy the manhood of the country, and make the next generation a community of half paralyzed idiots.

Abernethy on Correct Living vs. Drugs.—The *Medical Record* reproduces an extract from the biography of the late General Dix, by his son, Morgan Dix, in which is given an account of an interview with Abernethy, whom the General had consulted for professional advice. It is gratifying to note that the common sense advice of the illustrious physician was taken in a common sense way by the distinguished patient, and that the result was a ripe and robust old age, (80 years) of which the dyspeptic youth of the General scarcely gave promise. After hearing a few words of his patient's story, Abernethy cut him short, as follows: "Sir, you are pretty far gone, and the wonder is you are not gone entirely. If you had consulted common sense instead of the medical faculty, you would probably have been well years ago. I can say nothing to you except this: You must take regular exercise, as much as you can bear without fatigue, as little medicine as possible, of the simplest kind, and this only when absolutely necessary, and a modest quantity of plain food, of the quality which you find by experience best to agree with you. No man, not even a physician, can prescribe diet for another. 'A stomach is a stomach,' and it is impossible for any one to reason with safety from his own to that of any other person. There are a few general rules which any man of common sense may learn in a week, such as this: That rich food, high seasoning, etc., are injurious. I can say no more to you, sir; you must go and cure yourself."

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